Focused Mini-Workshop on Real-Time 3D Tomography, April 10-12 2017, CWI, Amsterdam

In recent years, we have seen a dramatic increase in the capability to perform fast tomographic data acquisition. Fast acquisition is of crucial importance to enable 3D imaging of dynamic processes. At the same time, it also holds the potential to transform tomography from a technique used for research purposes into a powerful inspection tool capable of scanning hundreds of objects in sequence.

The ability to acquire tomographic datasets at sub-second rates also imposes new challenges and opportunities on the computational part of the tomography pipeline. Data transport, high-performance computing, efficient algorithms for reconstruction and visualization must all be connected to keep up with the acquisition speed.

In this focused mini-workshop, which is part of the EXTREMA COST Action, the participants will engage in an in-depth discussion on the state-of-the-art and future prospects of combining fast data-acquisition with real-time data processing and computing capabilities. The programme will consist of lectures by experts in fast image acquisition, high-performance computing, image reconstruction, and other related fields. The workshop will have an informal character, with ample time reserved for hands-on discussions.

Location

The workshop will take place at CWI, the Netherlands National Research Center for Mathematics and Computer Science, which is located at the Science Park in Amsterdam. Information on how to reach CWI can be found here:

https://www.cwi.nl/about/contact

Hotels

The Easter period is already filling up the hotels in Amsterdam, and rates are on the rise. Please make a booking as soon as possible. The CASA 400 hotel is close to CWI (reachable by bus) and still has availability: https://hotelcasa.nl/

In general, booking.com shows a broad overview of hotel availability. Any hotel in the city center will be within public transport distance from CWI, especially for options close to the Central Station.

Preliminary programme

Monday 10/4:

11:00-12:00   Arrival and registration

12:00-13:00   Lunch

Broad theme: Fast acquisition

13:00-13:45   Rajmund Mokso (MaxIV)

13:45-14:30   Federica Marone (PSI)

14:45-15:30   Discussion

15:30-15:45   Coffee break

15:45-16.30   Andrew Kingston (ANU)

16:30-17:00   Denis Van Loo (XRE)

17:00-18.00   Drinks and discussion

Dinner

Tuesday 11/4:

Broad theme: Fast data processing

9:45-10:30   Suren Chilingaryan (KIT)

10:30-11:00   Willem Jan Palenstijn (CWI)

11:00-11:15   Coffee break

11:15-12:00   Viktor Nikitin (MaxIV)

12:00-12:30   Discussion

12:30-14:00   Lunch

Broad theme: Limited data, artefacts, real-time analysis, and interpretation

13:30-14:15   Pierre Paleo (ESRF)

14:15-15:00   Jan-Willem Buurlage & Holger Kohr (CWI)

15:00-15:30   Discussion

15:30-15:45   Coffee Break

15:45-16:15   Steffen Berg (Shell)

16:15-17:00   TBA

17:00-18:00   Drinks and discussion

Dinner

Wednesday 12/4:

Broad theme: Adaptive acquisition: closing the loop between acquisition and reconstruction

9:45-10:30   Glenn Myers (ANU)

10:30-11:15   Matthias Vogelgesang (KIT)

11:15-11:30   Coffee Break

11:30-12:15   Joost Batenburg (CWI)

12:15-12:45   Discussion

12:45-   Bagged Lunch